**BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN**

**Quadrennial Planning
Process III** **DOCKET NO. 5-FE-101**

COMMENTS OF THE INDUSTRIAL CUSTOMERS GROUP TO COMMISSION'S NOTICE OF INVESTIGATION REGARDING QUADRENNIAL PLANNING PROCESS III

A. INTRODUCTION

The Wisconsin Industrial Energy Group, Inc. (WIEG), Midwest Food Products Association (MFPA), Wisconsin Cast Metals Association (WCMA), and the Wisconsin Paper Council (WPC) (together, the Industrial Customers Group or ICG) appreciate the opportunity to provide feedback regarding the Quadrennial Planning process. Specifically, the Public Service Commission of Wisconsin (PSCW or the Commission) issued a draft Memorandum (Memo) on March 22nd seeking comments regarding issues related to Focus on Energy (Focus), the statewide energy efficiency and renewable resources program. State law requires the Commission to review energy efficiency and renewable resource programs periodically.[1] The Memo includes various Alternatives regarding Focus program related issues including priorities, cost effectiveness, programs requiring fund allocation decisions, collaboration with utility voluntary programs and setting goals.

The ICG represents manufacturers that operate in competitive markets and are constantly seeking ways to manage their costs. Energy efficiency is one of the most important ways by which they manage their costs and they need no reminder that using all resources more efficiently—labor, materials, capital and energy—is necessary to survive in competitive global markets. Consequently, the ICG values, appreciates and utilizes Wisconsin's energy efficiency programs and recognizes the diverse benefits which accrue from the programs throughout Wisconsin society and economy.

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[1] See Wis. Stat. § 196.374(3)(b)1.

The ICG appreciates Commission's Staff's efforts in preparing a comprehensive Memo and related Alternatives regarding various elements of the Focus programs. The ICG provides recommendations regarding Alternatives in the Memo where it adopts a position. The highlights of our recommendations are as follows:

a. **Priorities.** The ICG recommends modifying the current larger emphasis on energy savings and instead recommends placing equal emphasis on demand and energy savings. The current fund allocation percent share for business and residential programs is reasonable and should be maintained. Further, the focus on resource acquisition goals with targets to achieve market transformation has proven to be cost effective and should be maintained.

b. **Cost Effectiveness Tests.** The ICG recommends modifying the current practice of using the Modified Total Resource Cost (TRC) test to also include the Ratepayer Impact Measurement (RIM) test. Additionally, modified Alternatives are offered regarding avoided energy costs, avoided natural gas costs, and carbon costs. The ICG recommends reverting to pre-2010 discount rate of 5% instead of the current 2% to account for uncertainty in future savings that are inherent in forecasting savings.

c. **Programs Requiring Fund Allocation Decisions.** The ICG is not taking positions regarding the specific Commission Alternatives in this section. Rather, the ICG provides important recommendation regarding issues not addressed in the Memo:

    - The core Focus programs such as the business programs have consistently been proven to be cost effective. Therefore, funds from such programs should <u>not</u> be directed towards other initiatives and the Commission should retain the status quo funding amounts for such programs;

    - The Commission should approve the option of focus group discussions with a sample of industrial participating customers to hear their concerns with the current front and back end administrative processes and ways by which the program could become more efficient. Industrial customers also have recommendations regarding modifying or expanding industrial program offerings. The ICG believes that the lessons learned by participating customers will be valuable in improving the procedural efficiency and effectiveness of the program without causing deterioration in program integrity;

    - The ICG would like to collaborate with Focus and the Commission Staff to discuss concepts to increase flexibility in the business programs with a goal of structuring acceptable procedures to capture energy efficiency achievements which would not otherwise be accomplished, while maintaining program integrity.

d. **Accessibility of Data and Utility Voluntary Actions.** The ICG recommends retaining the status quo approach regarding these matters.

B. DETAILED COMMENTS

I. PRIORITIES

A. EMPHASIS BETWEEN ENERGY AND DEMAND

As noted in the Memo, in the past two Quadrennial Process investigations, the Commission determined there should be greater emphasis on reducing energy use than demand reduction. However, the following factors necessitate that equal emphasis be placed on energy and demand:

- Demand reduction is a high priority in the statute which states: "…The commission shall give priority to programs that moderate the growth in electric and natural gas **demand** (*emphasis added)* and usage…" *See* Wis. Stat. § 196.374(3)(b)1.
- For the past several years, fixed infrastructure related costs are a growing percentage of a customer's bill relative to energy (fuel and variable operations and maintenance) costs owing to competitive fuel prices. Placing more emphasis on demand savings compared to previous years will help defer the need for additional and expensive infrastructure.
- Both energy and demand reductions help defer power plant construction further into the future. As noted in the Memo on page 7, electricity providers expect a combined need for an additional 200–700 megawatts (MW) of capacity and energy by 2020. Further, energy and demand growth are expected to grow at a similar pace and placing equal emphasis on demand and energy will result in a more balanced load profile and efficient use of utility systems.[2]
- Demand reductions can also contribute to deferring the need for additional transmission infrastructure. The ICG expressed their concerns regarding the increasing cost trend associated with transmission in the comments regarding the last Strategic Energy Assessment report (See Docket: 05-ES-108, ERF: 288603).

[2] See ICG Comments in Docket:05-ES-107, ERF NO:213448

For reasons cited above, the ICG believes that equal importance should be given to reducing energy and demand and recommends Alternative Two:

Alternative Two: Establish Focus goals with an equal emphasis on energy and demand savings

B. EMPHASIS OF BUSINESS VERSUS RESIDENTIAL

The Memo indicates that currently, funding for Focus programs is allocated with approximately 60 percent for business customer classes and 40 percent for residential customers, which is consistent with the historical proportion of Focus funding collected from each type of customer, based on their share of energy use.

The ICG believes that retaining the current approach is reasonable. Allocating a higher percentage of the funding to business programs has consistently provided the "biggest bang for the buck". Tables 1 and 2 show the percent of expenditures, energy, demand and therm savings as well as the benefit-to-cost (B/C) ratios for the business and residential programs respectively. [3]

Table 1: Business Expenditures and Savings

Year	Sector	% Expenditures	% of Total KWh	% of Total KW	% of Total Therms	B/C Ratio
2013	Business	57	55	62	79	3.51
2014	Business	57	67	59	74	3.54
2015	Business	63	75	68	82	3.63
2016	Business	64	66	67	78	3.13
2013-2016	**Average**	**60**	**66**	**64**	**78**	**3.45**

[3] See Table 1, page 9 in the Memo

Table 2: Residential Expenditures and Savings

Year	Sector	% Expenditures	% of Total KWh	% of Total KW	% of Total Therms	B/C Ratio
2013	Residential	43	45	38	21	3.22
2014	Residential	43	33	41	26	2.88
2015	Residential	37	25	32	16	3.12
2016	Residential	36	34	33	22	2.75
2013-2016	**Average**	**40**	**34**	**36**	**21**	**2.99**

As can be noted from these tables, for the period 2013-2016, while both programs were cost effective, business energy programs resulted in larger energy savings per dollar invested than the residential programs. On average, for this period, the benefit to cost ratio was 3.45 compared to 2.99 for the residential programs. Similarly, it is worth noting that that the verified energy savings, kW reductions, and therm savings achieved from the business programs have exceeded the expenditure percentages for each of the years in the period 2013-2016. Based on these observations, it can be argued that a larger proportion than the current 60% should be allocated to fund the business programs. However, the ICG believes that the current allocation is a reasonable amount of funding for the business programs and we oppose lowering the allocation to less than the current amount.

The ICG therefore recommends retaining the status quo approach described in Alternative One:

> **Alternative One: Approximately 60 percent of Focus funding shall be allocated to business programs ratepayers and 40 percent to residential programs.**

C. Balance Between Resource Acquisition and Market Transformation

The ICG believes that the energy efficiency and renewable resource programs should predominantly focus on resource acquisition goal achievement with qualitative targets for market transformation, as is the case today.

The ICG supports Commission Staff's view that while resource acquisition and market transformation are formulated as distinct approaches to advancing energy efficiency, in practice there is often crossover. If well designed and implemented, resource acquisition programs support broader market transformation objectives. Greater participation in Focus programs will likely have market transformation spillover effects. Furthermore, allocating more funds on market transformation will result in shifting funds from resource acquisition efforts which may not be optimal and could impact the program's cost effectiveness. Thus, the ICG recommends the status quo approach of setting short-term resource acquisition goals with qualitative targets for market transformation. The ICG recommends Alternative One:

> **Alternative One: Focus goals should emphasize short-term energy savings. Qualitative targets for long-term market effects over the next 4 years should be set, and the Program Administrator shall prioritize designs that simultaneously achieve short-term energy savings while targeting longer-term market changes.**

II. COST EFFECTIVENESS OF PROGRAMS

A. COST EFFECTIVENESS TEST

Wisconsin Administrative Code § 137.05(12) requires the Focus Program Administrator to "deliver energy efficiency and renewable programs that pass a portfolio level test of net cost-effectiveness, as determined by the commission." It is critical that proper tests are conducted to determine the cost effectiveness of the various programs under the Focus umbrella to ensure that the ratepayer funds are directed towards programs that are successful in achieving net benefits. At present, the primary cost-effectiveness test used by the Commission is the Modified Total Resource Cost (TRC) test. This test includes the following:

- The benefits measured are the avoided costs to utilities from the program, including the costs to provide customers with the same amount of electricity and natural gas they saved through program participation, and the costs to build the additional capacity that would have been needed.[4] The Modified TRC also adds as a benefit the dollar value of emissions (carbon dioxide, sulfur oxides, and nitrogen oxides) avoided through the program.

- Costs in the test include the program costs for administration and for technical and customer support, and the additional incremental costs participants pay to purchase efficient products or services rather than lower-cost alternatives.

The ICG supports the Commission's current modified TRC test as the primary yardstick for evaluating the cost effectiveness of the programs. However, we believe that it is also important to place some level of emphasis on the Ratepayer Impact Measurement (RIM) test. The RIM test is the only test that incorporates a utility's lost revenues associated with reduced sales in the cost-benefit analysis and considers the impacts of the energy efficiency programs on participating and non-participating customers. While the ICG recognizes that the energy efficiency programs result in longer term savings (by helping defer infrastructure costs into the future), we believe that some consideration should also be given to the near term impact on rates. Such consideration is possible by reviewing the RIM test. At present, the Commission utilizes the RIM test for informational purposes only. The ICG believes that this test should be utilized more explicitly and therefore recommends modified Alternative One as stated below:

> **Alternative One [Modified]: Focus programs shall meet a Modified TRC Test of cost-effectiveness as the primary test. Provided the programs pass the Modified TRC test, programs with a higher RIM test shall be given priority.**

B. AVOIDED COSTS

1. ***Avoided Energy Costs.*** In Quadrennial Planning II, the Commission affirmed its decision from the first Quadrennial Planning process, to set electric avoided energy costs based on a forecasted locational marginal price (LMP) that is the average of LMPs across Wisconsin nodes. The LMP includes marginal energy costs, congestion costs and losses. Therefore, as noted in the Memo, LMP values at each node serve as

[4] Avoided costs are applied to net instead of gross savings meaning that free riders are excluded. Spillover effects of non-participants implementing energy efficiency initiatives are included. See the Memo on page 20.

a measure of the cost of electricity production, as well as the transmission costs associated with transmitting electricity to the node at a given time which can incorporate system losses and grid congestion. Averaging values across Wisconsin nodes allows for a determination of a Focus price that accounts for any variation between generation and transmission costs at individual nodes. The Memo notes that some commenters in the Quadrennial Plan II review recommended that an avoided cost adder be considered for transmission to the LMPs to fully reflect deferring such fixed costs.

The ICG does not oppose considering avoided transmission costs. At the same time, however, the avoided transmission costs should not be double counted. The current method of using forecasted LMPs incorporates avoided grid congestion costs. To the extent there is interest from the Commission in including a separate adder for avoided transmission costs, the forecasted LMPs used as avoided energy costs should exclude the congestion component.[5] Further, the adder should be incorporated with the avoided capacity component and not the avoided energy component since avoided transmission costs represent fixed infrastructure and not variable costs. Finally, interested parties should be provided the opportunity to evaluate the reasonableness of the adder.

As a result of the above mentioned observations, the ICG is not opposed to either Alternative One or Alternative One as modified below:

> **Alternative One: For the purposes of evaluating Focus, avoided electric energy costs shall be based on a forecasted LMP that is the average of LMPs across Wisconsin nodes.**
>
> **OR**
>
> **Alternative One [Modified]: For the purposes of evaluating Focus, avoided electric energy costs shall be based on a forecasted LMP that is the average of LMPs across Wisconsin nodes. If an adder is included to account for avoided transmission costs, then the avoided electric energy costs shall be based on a forecasted LMP that is the average of LMPs without the congestion component. The Evaluation Working Group (EWG) shall review available data for determining the appropriate value of an adder and submit a Memorandum for comment by interested parties. The adder shall be included in the avoided electric capacity costs.**

[5] LMPs are available in unbundled format to reflect the marginal energy, congestion and loss component separately.

2. ***Avoided Electric Capacity Costs.*** At present, the cost effectiveness analysis utilizes avoided electric capacity costs as the unit cost of a peaking plant. The ICG support the continued use of basing avoided generation capacity costs on the unit cost of a peaking plant. Such an approach is consistent with MISO's resource adequacy construct and tariff which also uses the cost of a new peaking plant as the Cost of New Entry (CONE). The CONE price is applied if market participants are capacity deficient. Accordingly, the use of avoided generation capacity costs in this manner are consistent with MISO market design and operations. The ICG therefore recommends Alternative One:

> **Alternative One: For the purposes of evaluating Focus, avoided electric capacity costs shall be based on the unit costs of a peaker plant.**

3. ***Natural Gas Avoided Costs.*** At present, the avoided cost method calculates natural gas costs specific to Wisconsin by identifying forecasted Henry Hub natural gas prices from the most recent EIA Annual Energy Outlook (EIA AEO), and using other EIA data to account for the additional transport, storage, and distribution costs associated with delivering gas to Wisconsin customers. The Memo indicates that the forecasts based on futures markets such as the New York Mercantile Exchange (NYMEX) generally only provide forecasts for 3 to 5 years, and do not provide long-term forecasts that cover the 20- to 30-year lifetimes of certain Focus measures. The ICG believes that the current method should be modified to include the NYMEX price forecast for the first three years and utilize the growth rate from the EIA AEO after that period - this method was vetted through the stakeholder process and is currently used at MISO. It utilizes publicly available data, is repeatable and provides a reasonable balance between short and long term expectations regarding future natural gas prices. Thus, the ICG recommends modified Alternative One:

> **Alternative One:** For purposes of evaluating the Focus program, avoided natural gas costs shall ~~**continue to**~~ be calculated based on **NYMEX for the first three years** and EIA forecasts of Henry Hub price**s growth rates after that time period**. **The prices shall be** adjusted using Wisconsin

City Gate prices and retail prices to estimate avoided natural gas costs in Wisconsin

4. ***Discount Rates.*** The primary reason for utilizing a discount rate is to account for level of risk perceived in achieving future benefits since the cost effectiveness analysis utilizes life cycle cost savings. For the last two Quadrennial Plan processes, the Commission has determined 2% as an appropriate discount rate to reflect low risk in achieving future savings. The value was selected as consistent with the interest rate for U.S. Treasury bills. Memo at pages 31-32.

   The ICG believes that the discount rate should be higher than the current 2% because the cost effectiveness analysis includes a range of assumptions regarding future avoided costs that remain static over a period of time. Necessarily, the level of uncertainty, and therefore, the risk level is higher the further out the time horizon. Furthermore, there are risks related to degradation and rebound effect (percent of energy savings offset by increased use) that have the potential to lower the savings. Therefore, in order to reflect this higher risk, the ICG recommends that the Commission utilize 5% as the discount rate for this Quadrennial Period compared to the current 2%. It should be noted that Focus utilized the 5% discount rate prior to 2010. See Staff Memorandum in Docket: 05-FE-100, ERF NO: 205665, page 32. Thus, the ICG recommends Alternative Four:

   Alternative Four: Use a discount rate of 5 percent in Focus' cost-effectiveness tests.

5. ***Carbon Costs.*** Focus' Modified TRC cost-effectiveness test includes as a benefit the value of the avoided emissions that result from program energy savings. Historically, the test has accounted for the emissions of nitrous oxides (NOX), sulfur oxides (SOX), and carbon dioxide (CO_2). Monetary values for NOX and SOX are set at the values established in national markets for trading emissions allowances. Because no national market exists for carbon dioxide emissions, no single accepted value is available, and determining an appropriate value has been treated as a policy decision

for the Commission to make in the Quadrennial Planning Process. For the current period, the Commission has set the cost of carbon at $15 per ton.

As noted in the Memo, the federal government is pursuing repeal of the previously proposed Clean Power Plan; it has indicated that an alternative initiative may be proposed, but no information is currently available on the projected terms or implementation date. For these reasons, the ICG believes that to the extent the Commission has a continued interest in including a cost per ton assumption for carbon, these assumptions should not be utilized until several years into the future. For example, recent comments submitted in Minnesota regarding the regulatory cost of carbon recommended delay in using cost of carbon assumptions from the current approved period of 2022 to a later time.[6] Some commenters such as the Minnesota Pollution Control Agency and Department of Commerce (together, the Agencies), and Xcel recommended 2025, while Minnesota Power and Otter Tail Power Company recommended 2026 and 2028 respectively.[7] The Agencies also recommended a low and high range of $5/ton to $25/ton respectively, which therefore results in an average of $15/ton, the current assumption set by the Wisconsin Commission. Therefore, while the ICG does not oppose using the same carbon cost assumption as the one currently utilized, we recommend that the start year of using this assumption in the life cycle cost analysis should be delayed until 2025 at a minimum.

> **Alternative One: Focus cost-effectiveness tests shall value avoided CO2 emissions using a market-based value of $15.00 per ton. This value shall be used starting 2025 [or later] in the life cycle cost analysis.**

III. PROGAMS WITH FUNDING ALLOCATION DECISIONS

In this section, the Memo addresses three scoping topics, namely renewable energy program priorities and budgets, the Integrated Anaerobic Digester System Program, and

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[6] **See comments filed in the Matter of Establishing an Estimate of the Costs of Future Carbon Dioxide Regulation on Electricity Generation under Minn. Stat. §216H.06, Docket No. E999/DI-17-53, Docket No. E999/CI-07-1199.**

[7] The Minnesota Commission has not yet made a determination regarding this matter.

the programs to support underserved rural areas of the state. The Commission authorized $47 million in funding for the latter two programs in 2017 and 2018. The source of these funds was surplus Focus collections that were unspent in previous years. As noted in the Memo, Focus' collections are expected to remain at approximately $100 million in future years and no unobligated surplus remains from previous years – this basically implies that the core Focus business and residential programs, renewable incentives and any other initiatives must all be funded out of the $100 million budget and any year-end surpluses.

The ICG is not taking positions regarding the specific Commission Alternatives in this section. Rather, the ICG offers recommendations below regarding: (1) the overall allocation of funds across the Focus programs, (2) ways to improve the procedural efficiency of the programs and modifying or expanding existing industrial program offerings, and (3) increasing program flexibility for the business programs.

1. ***Allocation of Funds.*** At present, $90 million are allocated for the business and residential programs, with $54 million allocated to business and $36 million to the residential programs. ICG strongly recommends that the funds from the core programs <u>not</u> be directed towards other initiatives. The ICG is not opposed to using year-end surpluses for other initiatives. However, we strongly encourage the Commission to retain the status quo funding amounts for the core Focus programs. As noted earlier, the business programs have consistently proven to very cost effective with benefit-to-cost ratios at approximately 3.5 for the period 2013-2016.
2. ***Program Efficiency and Effectiveness:*** Industrial customers that have participated in the Focus program have first-hand knowledge and experience regarding the front and back end administrative processes associated with the program. Some of ICG's members have also indicated a preference for learning about annual changes in the programs sooner than the current practice in order to synchronize with their budget cycles. In this regard, the ICG believes that it would be productive to have focus group discussions with a sample of participating customers to hear their concerns with the processes and ways by which the program could become more efficient. The ICG believes that the lessons learned by participating customers will be valuable in improving the efficiency of the program without causing deterioration in program

integrity. Further, participating industrial customers also currently have recommendations to share and discuss in an appropriate forum regarding expanding or modifying existing program offerings and undoubtedly would identify additional, beneficial recommendations through such an on-going dialogue. For example, ICG members have shared positive feedback in particular regarding the energy engineering resource staffing program and provided it is cost effective, would like to see this program expanded. Thus, the ICG recommends that the Commission approve the option of focus group discussions with industrial customer participants.

3. ***Industrial Program Flexibility:*** The ICG recommends that consideration be given to an opportunity to increase the flexibility for applicants to exceed limitations on energy efficiency investments in any single year or for any specific project. The concept is to develop a process to authorize spending by applicants for projects deemed extraordinary with substantive energy savings, but which absent funding above typical limitations, could not be undertaken. The increased flexibility would allow the applicant to access the total dollars available within a four-year quadrennial period during a single year or for a single project. The applicant would continue to be subject to limitations on the total dollars allowable for use during a four-year period, but limits on energy efficiency investments in a single project or a single year within the four-year period could be exceeded (i.e., and offset by reduced investment levels in other years or for other projects within the quadrennial period). In addition, manufacturers with multiple facilities are considered one customer and are subject to the limitations on energy efficiency investments. The ICG suggest increasing flexibility in this regard as well by placing the limitations by facility location instead of the group of multiple facilities. The ICG would appreciate the opportunity to collaborate with Focus and Commission Staff to discuss the concept with a goal of structuring acceptable procedures to capture energy efficiency achievements which would not otherwise be accomplished, while maintaining program integrity.

The ICG request in addition to our recommendations provided regarding the various Alternatives in the Memo, Commission Staff also incorporate these important recommendations for the Commission’s determination.

IV. FOCUS-UTILITY COLLABORATION ISSUES: BEHAVIORAL PROGRAMS, ACCESSIBILITY OF DATA, AND UTILITY VOLUNTARY PROGRAMS

C. ACCESSIBILITY OF DATA FROM PARTICIPATING UTILITIES [8]

In general, the Memo indicates that it would be helpful for Focus staff to have access to customer specific data so that behavioral programs can be developed and improved in a more targeted fashion. While ICG members support the option of utilities sharing aggregated information with Focus, they strongly oppose the sharing of customer specific information for commercially sensitive reasons. Further, the ICG believes that Focus already has the Strategic Energy Management (SEM) program that is aimed at analyzing industrial customers' usage patterns and offering subsequent recommendations. Therefore, customers interested in pursuing such programs are already sharing the relevant data with Focus staff. Therefore, the ICG recommends Alternative Four, which we understand to be the status quo approach:

Alternative Four: Take no action.

D. UTILITY VOLUNTARY PROGRAMS

Under Wis. Stat. § 196.374(8), an investor-owned utility that contributes its required funding to Focus "in any year is considered to have satisfied its requirements" for supporting energy efficiency and renewable resource programs. Thus, utilities are not required to implement additional energy efficiency programs beyond their contributions to the Focus program. Utilities, can however, implement additional programs on a voluntary basis. Such programs require Commission approval. As part of the request to implement a voluntary program, utilities are requirement under Wisconsin Admin. Code Chapter 137 to address: an evaluation plan, description of how program information will be tracked and reported, a description of how the utility will coordinate its voluntary program with Focus programs, the proposed budget, the likelihood the program will achieve its goals, and the anticipated cost-effectiveness of the program. The Memo

[8] The ICG takes no position regarding Section A: Focus-Utility Collaboration Framework and Section B: Behavioral Programs [for residential customers].

provides Alternatives for the Commission's consideration regarding a more formal coordination between Focus and utilities to help develop the voluntary programs.

Since the current statutory and administrative code provisions already require coordination with Focus, no further actions should be necessary. Thus, the ICG recommends Alternative Three:

Alternative Three: Take no action.

Similarly, ICG does not believe that further guidance is needed from the Commission regarding the type of voluntary programs that the utilities should offer. Since these programs are voluntary, utilities need to make the case for submitting programs that meet the criteria defined in Wisconsin Admin Code Chapter 137. Thus, the ICG recommends Alternative Four:

Alternative Four: Take no action

ICG appreciates the opportunity to comment on the Commission Staff's Memorandum.

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